## Amendments to the Claims

This listing of claims replaces all prior versions, and listings, of claims in the above-identified application:

1. (Previously presented) A medical device, comprising:

an encasement;

an electrical device disposed within said encasement;

a first electrical contact and a second electrical contact coupled to said electrical device;

a feedthrough assembly, comprising:

i) a ferrule extending through said encasement and having an inner surface and an outer surface,

ii) a terminal extending through said ferrule and having a first end extending into said encasement,

iii) a first conductive metal coating covering said first end, said first coating being a refractory metal,

iv) a body of insulation material disposed between said terminal and said ferrule inner surface for preventing said ferrule from electrically contacting said terminal; and

v) a second conductive metal coating covering at least a portion of said ferrule outer surface, said second coating being a noble metal.

2. (Previously presented) A medical device according to claim 1, wherein said first conductive metal coating also covers an area of said terminal adjacent to said body of insulation material.

3. (Previously presented) A medical device according to claim 1, further comprising:

a first connector for electrically coupling and mechanically engaging said first end with said first electrical contact; and

a second connector for electrically coupling and mechanically engaging said second conductive coating with said second electrical contact wherein said first connector comprises one of terminal and a crimping device.

4. (Previously presented) A medical device according to claim 2, wherein said first connector comprises a spring device.

5. (Previously presented) A medical device according to claim 1, wherein said first conductive metal coating entirely covers said terminal.

6. (Cancelled)

7. (Previously presented) A medical device according to claim 1, wherein said second conductive metal coating comprises rhodium.

8. (Previously presented) A medical device according to claim 1, wherein said second conductive metal coating comprises ruthenium.

9. (Previously presented) A medical device according to claim 1, wherein said second conductive metal coating comprises palladium.

10. (Previously presented) A medical device according to claim 1, wherein said second conductive metal coating comprises gold.

11. (Previously presented) A medical device according to claim 1, wherein said second conductive metal coating comprises platinum.

12. (Previously presented) A medical device according to claim 1, wherein said first conductive metal coating covers said terminal at a minimum thickness of about 100Å.

13. (Currently Amended) A medical device according to claim 12, wherein said ~~second~~ first conductive metal coating covers said terminal at a thickness ranging between about 3000 Å and about 7,000 Å.

14. (Previously presented) A medical device according to claim 1, wherein said terminal being one of a refractory metal and a refractory metal alloy.

15. (Canceled)

16. (Previously presented) A medical device according to claim 1, wherein said second connector comprises a spring device.

17. (Previously presented) A medical device according to claim 1, wherein said second conductive metal coating being one of a noble metal and a noble metal alloy.

18. (Previously presented) A medical device according to claim 1, wherein said first conductive metal coating comprises titanium.

19. (Previously presented) A medical device according to claim 1, wherein said first conductive metal coating comprises niobium.

20. (Currently amended) A medical device according to claim 1, wherein said ~~first~~ second conductive metal coating covers said ferrule at a minimum thickness of about 100Å.

21. (Original) A medical device according to claim 20, wherein said second conductive metal coating covers said ferrule at a thickness ranging between about 3000 Å and about 7,000 Å.

22. (Currently amended) A method of manufacturing a medical device, comprising ~~the steps of~~:

deploying an electrical device within an encasement, said electrical device being coupled to a first electrical contact and a second electrical contact;

forming a feedthrough assembly in said encasement, said feedthrough assembly comprising:

i) a ferrule extending through said encasement and having an outer surface,

ii) a terminal extending through said ferrule, and comprising a first end,

iii) a first conductive metal coating covers said first end of said terminal,

iv) a second conductive metal coating that is more resistant to oxidation than said ferrule and covers at least a portion of said ferrule outer surface, and

iv) a body of insulation material preventing said ferrule from electrically contacting said terminal; and

electrically coupling and mechanically engaging said first end of said terminal with said first electrical contact using a first connector; and

electrically coupling and mechanically engaging said second conductive metal coating with said second electrical contact using a second connector.

23. (Previously presented) A method according to claim 22, wherein said first connector comprises a crimping device.

24. (Previously presented) A method according to claim 22, wherein said first connector comprises a spring device.

25. (Previously presented) A method according to claim 22, wherein said second conductive metal coating being one of a noble metal and a noble metal alloy.

26. (Previously presented) A method according to claim 22, wherein said second conductive metal coating comprises rhodium.

27. (Previously presented) A method according to claim 22, wherein said second conductive metal coating comprises ruthenium.

28. (Previously presented) A method according to claim 22, wherein said second conductive metal coating comprises palladium.

29. (Previously presented) A method according to claim 22, wherein said second conductive metal coating comprises gold.

30. (Previously presented) A method according to claim 22, wherein said second conductive metal coating comprises platinum.

31. (Previously presented) A method according to claim 22, wherein said first conductive metal coating covers said terminal at a minimum thickness of about 100Å.

32. (Previously presented) A method according to claim 31, wherein said first conductive metal coating covers said terminal at a thickness ranging between about 3000 Å and about 7,000 Å.

33. (Previously presented) A method according to claim 22, wherein said step of forming a feedthrough assembly in said encasement comprises:

mechanically or chemically masking an area of said terminal that is to be surrounded by said insulating material; and

coating unmasked areas of said terminal, including said first end, with said first conductive metal.

34. (Previously presented) A method according to claim 22, wherein said step of forming a feedthrough assembly in said encasement comprises:

inserting said first end of said terminal through said ferrule;

mechanically or chemically masking said insulating material adjacent to said first end of said terminal; and

coating at least said first end of said terminal with said first conductive metal.

35. (Previously presented) A method according to claim 22, wherein step of forming a feedthrough assembly in said encasement comprises:

entirely coating said terminal with said first conductive metal coating.

36. (Previously presented) A method according to claim 22, wherein said terminal being one of a refractory metal and a refractory metal alloy.

37. (Canceled)

38. (Previously presented) A method according to claim 22, wherein said second connector comprises a spring device.

39. (Previously presented) A method according to claim 22, wherein said second conductive metal coating being one of a noble metal and a noble metal alloy.

40. (Previously presented) A method according to claim 22, wherein said first conductive metal coating comprises titanium.

41. (Previously presented) A method according to claim 22, wherein said first conductive metal coating comprises niobium.

42. (Currently amended) A method according to claim 22, wherein said ~~first~~ second conductive metal coating covers said ferrule at a minimum thickness of about 100Å.

43. (Original) A method according to claim 42, wherein said second conductive metal coating covers said ferrule at a thickness ranging between about 3000 Å and about 7,000 Å.

44. (Previously presented) A feedthrough assembly for enabling external electrical contact with an electrical device disposed within a hermetically sealed encasement, said feedthrough assembly comprising:

a ferrule extending through said encasement and having an inner surface and an outer surface;

a terminal extending through said ferrule and having a first end extending into said encasement;

a first conductive metal coating covering said first end;

a second conductive metal coating covering at least a portion of said ferrule outer surface, said second coating being more resistant to oxidation than said ferrule;

a body of insulation material disposed between said terminal and said inner wall for preventing said ferrule from electrically contacting said terminal;

a first connector that is connected to said first end for electrically coupling and mechanically engaging said first end with said electrical device; [[and]]

a second connector for electrically coupling and mechanically engaging said second conductive metal coating with said electrical device, the first conductive metal coating being a refractory metal and the second conductive metal coating being a noble metal.

45. (Previously presented) A feedthrough assembly according to claim 44, wherein said first conductive metal coating also covers an area of said terminal adjacent to said body of insulation material.

46. (Previously presented) A feedthrough assembly according to claim 44, wherein said first connector comprises a crimping device.

47. (Previously presented) A feedthrough assembly according to claim 44, wherein said first connector comprises a spring device.

48. (Previously presented) A feedthrough assembly according to claim 44, wherein said first conductive metal coating entirely coats said terminal.

49. (Cancelled)

50. (Previously presented) A feedthrough assembly according to claim 44, wherein said second conductive metal coating comprises rhodium.

51. (Previously presented) A feedthrough assembly according to claim 44, wherein said second conductive metal coating comprises ruthenium.

52. (Previously presented) A feedthrough assembly according to claim 44, wherein said second conductive metal coating comprises palladium.

53. (Previously presented) A feedthrough assembly according to claim 44, wherein said second conductive metal coating comprises gold.

54. (Previously presented) A feedthrough assembly according to claim 44, wherein said second conductive metal coating comprises platinum.

55. (Previously presented) A feedthrough assembly according to claim 44, wherein said first conductive metal coating covers said terminal at a minimum thickness of about 100Å.

56. (Previously presented) A feedthrough assembly according to claim 55, wherein said second conductive metal coating covers said terminal at a thickness ranging between about 3000 Å and about 7,000 Å.

57. (Previously presented) A feedthrough assembly according to claim 44, wherein said terminal being one of a refractory metal and a refractory metal alloy.

58. Canceled

59. (Previously presented) A feedthrough assembly according to claim 44, wherein said second connector comprises a spring device.

60. (Previously presented) A feedthrough assembly according to claim 44, wherein said second conductive metal coating being one of a noble metal and a noble metal alloy.

61. (Previously presented) A feedthrough assembly according to claim 44, wherein said first conductive metal coating comprises titanium.

62. (Previously presented) A feedthrough assembly according to claim 44, wherein said first conductive metal coating comprises niobium.

63. (Previously presented) A feedthrough assembly according to claim 44, wherein said first conductive metal coating covers said ferrule at a minimum thickness of about 100Å.

64. (Original) A feedthrough assembly according to claim 63, wherein said second conductive metal coating covers said ferrule at a thickness ranging between about 3000 Å and about 7,000 Å.

65. (Currently amended) A medical device, comprising:

an encasement;

an electrical device disposed within said encasement;

a first electrical contact and a second electrical contact coupled to said electrical device;

a feedthrough assembly, comprising:

i) a ferrule extending through said encasement and having an inner surface and an outer surface,

ii) a terminal extending through said ferrule and having a first end extending into said encasement,

iii) a first conductive metal coating covering said first end, said first coating being a refractory metal,

iv) a body of insulation material disposed between said terminal and said ferrule inner surface for preventing said ferrule from electrically contacting said terminal;

v) a second conductive metal coating covering at least a portion of said ferrule outer surface and said first conductive metal coating covering said first end of said terminal, said second coating being a noble metal; and

a first connector for electrically coupling and mechanically engaging said first end with said first electrical contact; and

a second connector comprising a spring contact for electrically coupling and mechanically engaging said second conductive metal coating with said second electrical contact

~~wherein the first conductive metal coating serves as an adhesive for the second conductive metal coating~~.

66.-67. (Cancelled)

68. (Previously presented) An implantable medical device (IMD) comprising:

an encasement;

an electrical device disposed within said encasement;

a first electrical contact and a second electrical contact coupled to said electrical device;

a feedthrough assembly, comprising:

i) a ferrule extending through said encasement and having an inner surface and an outer surface,

ii) a terminal extending through said ferrule and having a first end extending into said encasement,

iii) a first conductive metal coating covering said first end, said first coating being a refractory metal,

iv) a body of insulation material disposed between said terminal and said ferrule inner surface for preventing said ferrule from electrically contacting said terminal;

v) a second conductive metal coating covering at least a portion of said ferrule outer surface, said second coating being a noble metal; and

a first connector for electrically coupling and mechanically engaging said first end with said first electrical contact; and

a second connector for electrically coupling and mechanically engaging said second conductive coating with said second electrical contact,

wherein internal hybrid electronics of the IMD being mechanically connected through a spring or a crimp to achieve an electrical connection between the feedthrough assembly and the IMD.

69. (Previously presented) An implantable medical device (IMD) comprising:

an encasement;

an electrical device disposed within said encasement;

a first electrical contact and a second electrical contact coupled to said electrical device;

a feedthrough assembly, comprising:

i) a ferrule extending through said encasement and having an inner surface and an outer surface,

ii) a terminal extending through said ferrule and having a first end extending into said encasement,

iii) a first conductive metal coating covering said first end, said first coating being a refractory metal,

iv) a body of insulation material disposed between said terminal and said ferrule inner surface for preventing said ferrule from electrically contacting said terminal;

v) a second conductive metal coating covering at least a portion of said ferrule outer surface, said second coating being a noble metal; and

a first connector for electrically coupling and mechanically engaging said first end with said first electrical contact; and

a second connector for electrically coupling and mechanically engaging said second conductive coating with said second electrical contact,

wherein internal hybrid electronics of the IMD being mechanically connected through a spring to achieve an electrical connection between the feedthrough assembly and the IMD, wherein the spring is coupled to the terminal.

70. (Previously presented) An implantable medical device (IMD) comprising:

an encasement;

an electrical device disposed within said encasement;

a first electrical contact and a second electrical contact coupled to said electrical device;

a feedthrough assembly, comprising:

i) a ferrule extending through said encasement and having an inner surface and an outer surface,

ii) a terminal extending through said ferrule and having a first end extending into said encasement,

iii) a first conductive metal coating covering said first end, said first coating being a refractory metal,

iv) a body of insulation material disposed between said terminal and said ferrule inner surface for preventing said ferrule from electrically contacting said terminal;

v) a second conductive metal coating covering at least a portion of said ferrule outer surface, said second coating being a noble metal; and

a first connector for electrically coupling and mechanically engaging said first end with said first electrical contact; and

a second connector for electrically coupling and mechanically engaging said second conductive coating with said second electrical contact,

wherein internal hybrid electronics of the IMD being mechanically connected through a crimp to achieve an electrical connection between the feedthrough assembly and the IMD.

71. (Previously presented) An IMD comprising:

an encasement;

an electrical device disposed within said encasement;

a first electrical contact and a second electrical contact coupled to said electrical device;

a feedthrough assembly, comprising:

i) a ferrule extending through said encasement and having an inner surface and an outer surface,

ii) a terminal extending through said ferrule and having a first end extending into said encasement,

iii) a first conductive metal coating covering said first end, said first coating being a refractory metal,

iv) a body of insulation material disposed between said terminal and said ferrule inner surface for preventing said ferrule from electrically contacting said terminal;

v) a second conductive metal coating covering at least a portion of said ferrule outer surface, said second coating being a noble metal; and

a first connector for electrically coupling and mechanically engaging said first end with said first electrical contact; and

a second connector for electrically coupling and mechanically engaging said second conductive coating with said second electrical contact,

wherein internal hybrid electronics of the IMD being mechanically connected through a spring to achieve an electrical connection between the feedthrough assembly and the IMD,

wherein the spring being directly coupled to the ferrule.

72. (Previously presented) An IMD comprising:

an encasement;

an electrical device disposed within said encasement;

a first electrical contact and a second electrical contact coupled to said electrical device;

a feedthrough assembly, comprising:

i) a ferrule extending through said encasement and having an inner surface and an outer surface,

ii) a terminal extending through said ferrule and having a first end extending into said encasement, the terminal comprising one of tantalum niobium, titanium or alloys thereof;

iii) a first conductive metal coating covering said first end, said first coating being a refractory metal,

iv) a body of insulation material disposed between said terminal and said ferrule inner surface for preventing said ferrule from electrically contacting said terminal;

v) a second conductive metal coating covering at least a portion of said ferrule outer surface, said second coating being a noble metal; and

a first connector for electrically coupling and mechanically engaging said first end with said first electrical contact; and

a second connector for electrically coupling and mechanically engaging said second conductive coating with said second electrical contact,

wherein internal hybrid electronics of the IMD being directly connected to the terminal through one of a crimp and a spring.